

AMENDMENT

In the Specification:

At pages 1-2 of the published Application, replace the current paragraph [0014] with the following:

In an advantageous embodiment of the method according to the present invention, a drying of the sample takes place between the process steps a) and b) as process step a1) and/or between the process steps b) and c) ~~a)~~ as process step b1). It has shown that, as a result, a further homogenisation and also concentration of the biological sample to be examined takes place, whereby the drying in accordance with process steps a1), b1) or d) can take place by way of air or vacuum drying.

At page 3 of the published Application, replace the current paragraph [0033] with the following:

In a next working step the separation wall 18 is pushed back into its starting position, i.e. into a final position to separate the first chamber 12 from the second chamber 20. Next, the slide box 26 is placed into the rails 28, 30 of the device 10 and transferred into the first chamber 12. Also, the lid 36 of the device 10 is closed. Next, in a further working step, a vacuum is generated inside the first chamber 12 with the aid of the vacuum pump 16. This way the biological samples are dried for a first time in accordance with a process step a1). Following the completion of this drying process a1) the vacuum is removed from the first chamber 12. Finally, the separation wall 18 between the first chamber 12 and the second chamber 20 is again removed and the slide box 26 is lowered into the second chamber 20 which is filled with the first solution L1. This way the protein-precipitating or denaturing first solution L1 is applied to the biological samples and the supports 24 at a first temperature T1, which, in the present case, is the room temperature. Through the contact with the organic solvent L1 the proteins of the samples have water extracted from the hydration jacket. After a predetermined time period Z1, which can for example be 10 seconds, the slide 26 is again pulled into the chamber 12. This completes process step b). Owing to the very short exposure time there is only a partial, gentle water extraction, so that the three-dimensional structure of the proteins in the cells is not influenced or only slightly influenced. This way the proteins become homogeneously accessible for the subsequent process step c). Before said process step c) is performed, the separation wall 18 is again pushed back in, so that

the two chambers ~~10~~, 12, 20 are again separated. According to a process step b1), the sample is now once again dried with the aid of the vacuum pump 16. Finally, following the completion of the drying process and the removal of the vacuum from the first chamber 12, the separation wall 18 between the chambers ~~10~~, 12, 20 is again removed.

At page 3 of the published Application, replace the current paragraph [0034] with the following:

In the following working step the temperature inside the chambers ~~10~~, 12, 20 is lowered to and set at -20°C . using the temperature controller 14'. As the biological samples are arranged in the gaseous phase of the organic solvent L1 in the first chamber 12, they are frozen in accordance with a process step b2). It is also possible to freeze the samples by supplying liquid nitrogen. The same applies mutatis mutandis to the supply of liquid isopentane at approx. -130°C . Later on, these liquids have to be removed once again from the system. In the second chamber 20, owing to the usually much lower freezing point, the organic solvent L1 is in its liquid state. This is true in particular where acetone is used as an organic solvent. Thereafter, the slide box 26 with the biological samples is lowered into the second chamber 20, so that in accordance with process step c) the protein-precipitating or denaturing first solution L1 is applied further to the biological sample at the second temperature T2. Now, the samples remain in the second chamber 20 for a predetermined time period Z2, which, for the embodiment described, can be approx. 10 minutes. Owing to the additional application of the first solution L1 at a low temperature T2, the water jacket of the cellular proteins is extracted in situ in a gentle way, which, because of the prepared process step b) is homogeneous and complete, the three-dimensional structure of proteins and protein complexes of the treated biological sample being largely retained.